

1. KM in education, education in KM

1.1 Introduction

Globalization and upsurge of the knowledge economy are challenging the way individuals must learn how to manage their knowledge. In the workplace, individuals are increasingly facing the pressures of time-constrained requests for effective and high-quality results, of rapid learning and continuous adaptation to a fast-changing environment, of introducing or managing innovations at an accelerating pace. Hence all individuals, regardless their role or function, are increasingly asked to become “knowledge-intensive” workers. Among the many expectations facing these new-age professionals, [Handzic \(2007\)](#) includes these: being skilled at creating, acquiring, transferring knowledge and modifying their behavior accordingly; being capable of continually expanding the ability to create desired results, nurture new thinking patterns, set free collective aspirations, and learn how to learn together; and, finally, inventing new knowledge as a way of behaving or being. In short, there is increasing demand for knowledge management (KM) capabilities.

By extending the analysis, we consider that people need a more sophisticated way of managing their knowledge just to be considered citizens in our complex societies. We all need to quickly learn how to use new social media to stay connected with family or friends; how to retrieve and select appropriate information for understanding the state of our financial accounts, our pension scheme or our investment opportunities; how to find and interact with key informants that help us take everyday decisions about our health, our family’s safety, our children’s schools, etc. In short, we all need to be effective knowledge managers in everyday tasks.

This increasing demand for new skills and capabilities necessitates a corresponding response from the educational sector. Generally speaking, the capacity of traditional educational systems to meet these requests effectively – and how to reform them adequately – is increasingly debated ([Robertson, 2005](#); [Stukalina, 2008](#)). In terms of content, educational programs or teaching approaches are often criticized because they may not reflect the cross-disciplinary nature of today’s knowledge domains, they may have little base in reality, or may not be appropriate to cultivate creativity, problem-solving skills and capability to interact and share knowledge, in a global world that grounds on interpersonal and cross-cultural interactions. In recent years, new strategies and tools for teachers to help their students activate their learning capabilities have been suggested and tested ([Chalmers and Fuller, 2012](#)). In this context, KM can find an important place; students can be made aware of the need for giving order to their processes of assimilating, creating, sharing and exploiting knowledge, and can be provided with useful suggestions, approaches and practical methods. Recently, the term *personal knowledge management* ([Pauleen and Gorman, 2011](#)) has become popular; it indicates the collection of processes or methods that the single individual can use to gather, classify, store, exploit, retrieve or share knowledge in their daily activities, and it grounds on the idea that each person is responsible for their own learning ([Smedley, 2009](#)).

Furthermore, KM can be important for the work of educators and, more generally, for the organization of schools and universities. Although it is generally recognized that KM has its origin in companies, schools and universities, being knowledge-intensive organizations by definition ([Schaller et al., 2008](#)), are natural candidates of KM applications. In particular, it has been said that KM practices may be beneficial to supporting teachers and academics in their multifaceted work, to actually share tacit knowledge and to enable real organizational



learning across cultures (Ratcliffe-Martin *et al.*, 2000; Stevenson, 2000). The interest of educational institutions in KM is recent, but growing; for example, the creation of professional communities of practice of teachers is increasingly considered in schools and universities (Lieberman and Miller, 2008). A community of practice, one of the most popular KM arrangement (Bolisani and Scarso, 2014), can make teachers interact and assist each other in their daily problems, improve collective learning, facilitate consistent teaching methods across various subjects and in the end improve the effectiveness of learning experience of students.

Recalling that KM has its first natural application in companies, another important connection between KM and education relates to the need for companies to train their “KM professionals”. KM can be a career and a profession (Bolisani and Scarso, 2011), and this requires appropriate training, both at the university and later in companies (Zhang *et al.*, 2008). Reflecting on how KM programs can be delivered at universities – but also in companies – becomes urgent (Cervone, 2016).

2. Knowledge management in education? Education in knowledge management?

This special issue was organized to address the connection between KM and education by considering two significant perspectives, which were also used to classify the submitted papers. The first viewpoint characterizes the papers that mainly focus on the *way KM is taught and learnt*, as an educational or professional subject, in different environments: schools, universities or business organizations. In the special issue, we called this perspective “education in KM”. This essentially means that KM can be relevant, as a special subject, for specialized professionals that have or will have KM functions not only in companies and organizations, but also for students, researchers and non-specialized professionals who can take advantage of general KM skills. This requires a reflection on possible contents of KM courses, education standards and institutions that deliver these courses in the various steps of a person’s career.

The second viewpoint is that, considering that the management of knowledge is strictly connected with the learning processes of people, KM methods can *improve the effective transmission of knowledge between teachers and learners* of any kind of subject. In other words, an effective implementation of knowledge of KM processes, functions, methods and tools can represent an essential support of educational programs and, therefore, a basic background of teachers and learners. Also, KM practices can help organize and provide effective and efficient education services, in other words, educational institutions (universities, schools, business schools, etc.), being knowledge-based organizations by their essential nature, can exploit KM techniques for better management and provision of their services.

The special issue was organized around these main topics, with the purpose to not only provide a fresh view of the state-of-the-art of these long debated issues, but also collect new viewpoints and to open a window on the unresolved/recent questions that still concern the function of KM in education and the place of KM among other subjects of educational programs.

3. The selected papers

The majority of the papers included in this special issue was earlier submitted to a special track, organized by the International Association for Knowledge Management (IAKM), at the European Conference on Knowledge Management (Ulster University

Belfast, September 1-2, 2016). This special track contained a Papers Award Competition, which ensured the best quality of the publication.

Paper selection involved multiple-step selection: first, after a blind peer-review, 13 papers were accepted for the Special Conference Track, of which nine were finally presented at the Conference. Out of these, a special panel of reviewers decided the finalists for the two awards (one award for the “best paper”, with three finalists, and the other for the “most innovative paper”, with two finalists). These paper authors were invited to submit a revised version of their article to the special issue. These articles were integrated with some additional papers, submitted by invitation. After a final round of double-blind peer review, eight papers were finally accepted for publication in the special issue.

In this section, there is a summary of the individual papers, classified into two categories: those that mainly focus on KM as a subject (“education in KM”) and those that focus on the use of KM practices in educational institutions (“KM in education”).

3.1 Education in knowledge management

Three selected papers focus on KM as a special subject in education and professional training. The first article “Five Ws and One H in Knowledge Management Education” (by Meliha Handzic, John Edwards, Aino Kianto, Sandra Moffett, Alexeis Garcia-Perez and Ettore Bolisani) examines the state-of-the-art and outlines the possible prospects of KM as educational subject. The paper grounds on a literature review and also reports the results of a group discussion, led by the authors during an authoritative international conference on KM and involving a number of researchers and practitioners all interested in the topic, about the “why”, “what”, “who”, “where” and “when” of KM education. On the basis of the opinions expressed by this sample of researchers and KM educators, it was possible to highlight the “hot points” that still characterize this field, and finally to provide some ideas about “how” to strengthen KM as a subject of education in universities and schools, and of professional training in the business context. The study recognizes that KM is a relatively new phenomenon and that there is no clear consensus about the role of KM in organizations, the competencies and skills that KM professionals need to have, and where and when they should obtain them. This also explains the lack of a “standard” approach to teach or learn KM and, therefore, of a standard model of KM courses or programs in universities and schools. Challenges to KM researchers and educators are that KM is, somewhat, transversal and complementary compared to a person’s set of competences, but it needs to be integrated into these competences. Also, KM requires not only conceptual and abstract models but also a clear connection with the practice. Finally, KM courses and curricula have to fit the specific needs of people in their distinct steps of career or job positions.

So, what is the current panorama of KM curricula and courses provided at universities? Frank H. Cervone, in his paper “What Does the Evolution of Curriculum in Knowledge Management Programs Tell Us About the Future of the Field?”, draws a broad and updated picture based on a worldwide analysis of KM programs in the USA, EU, Australian and Asian universities. Indeed, there has been very limited study of the curriculum within KM programs, and in any case, most of the research dates from 2010 or earlier. In the paper, the results of a comparative analysis of curricula in English that are focused on KM are illustrated. Currently, it emerges that KM as a distinct program of study appears to be stable but the number of programs is declining. Also, we see a greater variety in home locations and coverage of the field is becoming increasingly diverse in its approach. In addition, KM programs are moving toward transformation or integration with allied fields. The paper is particularly precious because it provides a baseline understanding of what the overall requirements within these programs has been developed. This may bring benefits for the

profession as this baseline can provide a clearer understanding of the skills and knowledge elements that are present, or absent, in current academic programs. In addition to better informing the KM community of what graduates of these programs may know, this information can form the basis for academic program improvement and, ultimately, better use of KM in professional practice.

So, what can the KM community do to contribute making KM a more established education subject? The paper “Lifewide, Lifelong Comprehensive Approach to Knowledge Management Education – Emerging Standards” by Denise Bedford, Marion Georgieff and Johel Brown-Grant takes a step in this direction, and reports about a project conducted by a special committee of the KM Education Forum involving more than 100 KM researchers and educators worldwide. The project, where the authors themselves had a role, aimed to provide a foundation upon which to design standards for KM programs in educational institutions. Indeed, the lack of standards is a significant challenge for the advancement of the field, the sustainability of institutional programs, the future competencies of knowledge workers and the effective growth of knowledge organizations. By leveraging an intensive and inclusive review of the core literature and the analysis of relevant concepts with learning goals and objectives for different levels of learning, a framework is proposed that builds upon and adapts a methodology used to establish educational standards in computer science. The framework is presented as a focal point for discussion across the profession. The paper suggests that a lifelong learning model is definable for the field of KM, just as it has been for other disciplines. The progressive learning model may produce high school graduates who are better prepared for knowledge work, a larger population of knowledge practitioners and professionals prepared to support and lead knowledge organizations, increased quantities and improved quality of knowledge management research. However, an unexpected finding was the lack of general knowledge of the breadth and depth of concepts in the discipline among knowledge practitioners and professionals. This still represents a challenge that will be hopefully faced by tomorrow’s KM researchers and educators.

3.2 Knowledge management in education

The second group of papers adopts the other perspective outlined in Section 3, and focuses on a different issue, i.e. how KM can help to understand, model or organize teaching and learning processes and more generally to assist the organization of educational services. Despite this common trait, the papers treat specific topics and adopt different research methodologies.

Two papers focus on how KM concepts can be useful to understand effectiveness of teaching and learning. Constantin Bratianu and Elena-Madalina Vătămănescu, in their paper “Students’ Perception on Developing Conceptual Generic Skills for Business: a knowledge-based approach”, underline that the classical approach of teaching and learning, mostly based on knowledge transfer, is being increasingly questioned; knowledge life cycle is shortening and new type of jobs appear every day with new knowledge request. Therefore, there is the need to investigate how to switch the focus from purely learning knowledge to learning generic skills liable to help future professionals to think and learn by doing, i.e. to develop their own knowledge in peculiar and individual ways. The paper reports the results of an extensive survey of over 500 students in undergraduate and graduate programs at two Romanian universities. The findings show that the “classical approach” of learning as knowledge transfer can be still preferred by undergraduate students (because this implies less responsibility in doing a harder conceptual work), but students of master programs are much open to new perspectives of developing generic skills

as the basis of development of their own knowledge that can be useful for their future professional needs. This is an important message for universities that need to face the increasingly turbulent landscape of today's world, and this lesson goes well beyond the specific environment where the study was performed

Similarly, the paper "Making meaning out of noise: a knowledge management core competence for higher education students" (by Jorge Cegarra-Sánchez and Juan-Gabriel Cegarra-Navarro) focuses on the specific concept of "counter-knowledge" and how this notion can help to understand the dynamics of learning in specific environments. Counter-knowledge means constructing "false" meanings out of gossip, lies, exaggeration, partial truth, etc., which can cause a reduction in rational thinking, a diffusion of irrational and false messages and can also be the cause of frauds or misleading behaviors. By analyzing the roots of this phenomenon in terms of KM concepts, the assumption of the authors is that, when controlled, counter-knowledge is a variable that can also have the effect of strengthening the relationship between learning and student achievement. The paper analyzes the relationships between professional learning communities and counter-knowledge using an empirical study of 210 undergraduate students, with the purpose to clarify the impact on student achievement by professional learning communities. The findings support the hypothesis that professional learning communities provide a way of counteracting counter-knowledge and the noise heard through gossip, lies, exaggeration and partial truths. This is important because it highlights how KM can be useful to improve the capability of learners to develop their critical thinking capabilities.

Another paper "Transmitting Competencies at Universities: Employability Readiness of Students" (by Gulbakhyt Sultanova, Serik Svyatov and Nurzhan Ussenbayev) shows how KM concepts can be useful to measure the effectiveness of educational services. The study compares traditional "grade point average" techniques for measuring the results obtained by students with a newly proposed method which is "employability readiness indicator", which aims to measure the efficacy of universities in transmitting transferable knowledge that can produce employable graduates – which is, indeed, a key goal of higher-education institutions. Details of the method are illustrated, which can also help a reader to understand its applicability. Also, a test is performed by using data of 245 students at Narxoz University in Kazakhstan. Although there is still research to be done for confirming the data, this measurement approach is promising and can, in principle, be applied at any university and, also, may allow national and international comparison of educational efficiency, which is another important issue for educators and policymakers.

The last two papers consider how KM practices can be of use for the organization of educational or training services. Enrico Scarso, in his paper "Corporate Universities as Knowledge Management Tools", focuses on corporate universities, namely, a particular educational arrangements to provide specific training in companies. The study discusses how corporate universities are seen in the KM literature, analyzes some key KM aspects in their implementation and management, and proposes a preliminary classification of corporate universities based on fundamental KM notions. On the basis of a multiple case study investigation in medium-sized Italian companies, it is proven that KM concepts can be pertinent and useful to understand the organization and functioning of corporate universities. This is especially important because it can help the design and management of these structures, which are becoming popular in companies. However, the study also shows that there is a need to conduct further studies to better understand these particular educational arrangements under a KM viewpoint.

Finally, the paper “Using Enterprise Social Networks as a Knowledge Management Tool in Higher Education” (by Niall Corcoran and Aidan Duane) examines how a well-known notion in business, that of enterprise social network, can enable staff knowledge sharing in communities of practice in higher-education institutions. Indeed, in this field, the management of organizational knowledge and the promotion of staff knowledge sharing is still neglected. The study reports an action research project, covering three cycles over a 12-month period between 2016 and 2017. The analysis provides insight into the antecedents necessary for the creation of an enterprise social network enabled knowledge-sharing environment, the motivators for and barriers to participation, and the perceived organizational and individual benefits of increased staff knowledge sharing activity. Many practical implications for the management of higher education institutions can be derived. In particular, while the importance of knowledge sharing is perceived to be important for facilitating dynamism and reactivity of higher education institutions, the organizational culture and structure can be major barriers to staff knowledge sharing, for example, an evident problem is the classic divide between faculty and other staff. The study proposes a model of adoption on social media platforms that can be of help in facilitating knowledge sharing across organizational or hierarchical divisions. However, the authors also underline the importance of leadership and management capability in a project of enterprise social network, especially when it is applied to a higher-education institution. Needless to say, this is also a central and recurring theme in KM research.

4. Conclusion: what’s next on the knowledge management horizon?

In our opinion, this special issue can attract the attention of the KM community not only because of the interesting contributions of the various papers, but also because it provides a preview of the future challenges in the relationship between KM and education and, therefore, of the possible directions of research and practice. Undoubtedly, it is confirmed that KM is an ingredient of educational activities, whether it is explicitly recognized or not. The processes of teaching and learning imply cognitive activities, and here KM research can provide food for thought and also useful methods and approaches to learners and instructors. Also, KM can help schools and universities, that are – by nature – knowledge-intensive institutions, to organize and manage their activities. As the special issue confirms, these points are well clear in the literature, but what is still missing is the development of established models of application of KM to the specific world of education. There is the need for coordinated efforts of theoretical research and practical experimentation.

The situation is even more complex when we consider KM as an educational subject matter. Even the papers of our special issue show that there is increasing awareness that it is important to define educational standards and established curricula in KM. On the other hand, this process faces several difficulties, and is often promoted by the single university or school rather than being a shared initiative or development program. It may be said that this depends on the fact that KM is still far from being an independent and well-defined area of study.

Indeed, it is true the KM field still lacks a formal recognition among the other “established” disciplines and schools, but it must be recalled that, just in a few decades, the community of researchers and practitioners has made giant leaps. Today, we witness a proliferation of conferences, books, journals and practical projects in companies. The next step will be to reinforce the foundations of KM as a scientific discipline, which calls for a recognition of its usefulness in education. This is also one of the goals of our International

Association for Knowledge Management, which greatly collaborated in the success of this special issue.

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Further reading

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